

CHANNEL TO BOLINAS, CAL.

L E T T E R

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

WITH A LETTER FROM THE CHIEF OF ENGINEERS, REPORT ON
PRELIMINARY EXAMINATION OF CHANNEL FROM THE TOWN OF
BOLINAS, CAL., TO THE SEA.

JANUARY 10, 1916.—Referred to the Committee on Rivers and Harbors and ordered
to be printed.

WAR DEPARTMENT,
Washington, January 8, 1916.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith a letter from the Chief of Engineers, United States Army, dated 7th instant, together with copy of a report from Lieut. Col. Thomas H. Rees, Corps of Engineers, dated May 7, 1915, on preliminary examination of channel from the town of Bolinas, Cal., to the sea, made by him in compliance with the provisions of the river and harbor act approved March 4, 1915.

Very respectfully,

LINDLEY M. GARRISON,
Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, January 7, 1916.

From: The Chief of Engineers, United States Army.

To: The Secretary of War.

Subject: Preliminary examination of channel from the town of
Bolinas, Cal., to the sea.

1. There is submitted herewith for transmission to Congress report dated May 7, 1915, by Lieut. Col. Thomas H. Rees, Corps of Engineers, on preliminary examination authorized by the river and harbor act approved March 4, 1915, of channel from the town of Bolinas, Cal., to the sea.

2. The town of Bolinas, with a population of about 300, is situated on the shore of Bolinas Lagoon, about one-half mile from its mouth and about 11 miles northwest of the entrance to San Francisco Bay. At ordinary mean low water the depth on the bar is about 2 feet, and the mean tidal range is about 4 feet. It appears that the boat which handles most of the commerce of the town of Bolinas finds it difficult to enter and leave the harbor on account of the shifting nature of the channel and the small depth available. The improvement apparently desired is the construction of two jetties converging toward the sea, with a view to stabilizing the location of the bar and scouring and maintaining a channel of suitable depth. The district officer, who is also the division engineer, states that the amount and value of the present and prospective commerce are not sufficient to justify the cost of any practical improvement at the expense of the United States; and, moreover, that the present channel depths, with the tidal range, afford fairly reasonable facilities for all existing commerce. He therefore expresses the opinion that the locality is not worthy of improvement by the United States.

3. This report has been referred, as required by law, to the Board of Engineers for Rivers and Harbors, and attention is invited to its report herewith, dated September 14, 1915, concurring in the views of the district officer.

4. After due consideration of the above-mentioned reports, I concur in the views of the district officer and the Board of Engineers for Rivers and Harbors, and therefore report that the improvement by the United States of channel from the town of Bolinas, Cal., to the sea, is not deemed advisable at the present time.

DAN C. KINGMAN,
Chief of Engineers, United States Army.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

[Second indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
September 14, 1915.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. The following is in review of the district officer's report on preliminary examination of "Channel from the town of Bolinas, California, to the sea," called for by the act of March 4, 1915.

2. The town of Bolinas, with a population of about 300, is situated on the shore of Bolinas Lagoon, about one-half mile from its mouth and about 11 miles northwest of the entrance to San Francisco Bay. The depth on the bar at ordinary mean low water is about 2 feet, the mean range of tide being 4 feet. The channel over the bar is changeable in depth and position and the improvement desired is stated to be the construction of jetties with a view to securing a deeper and more permanent channel.

3. The commerce of the locality is apparently all handled by water and is stated to amount to about 3,920 tons, having a value of \$240,000. The principal commodities are grain and alfalfa. Owing to the poor condition of the channel the boat that plies between Bolinas and San Francisco is frequently delayed, and occasionally misses a trip on account of rough weather.

4. The district officer, who is also the division engineer, reports the locality as unworthy of improvement by the United States, because the improvement would be largely local; present and prospective commerce is not sufficient to justify the probable cost; and the present depths, taken in connection with the tides, afford fair facilities.

5. Interested parties have been advised of the tenor of the district officer's report and given an opportunity of submitting their views to the board, but no communications on the subject have been received.

6. From the information presented, it appears that there is little commerce at present, with small prospect of any material increase; that the improvement would serve a small community only; and that the cost of securing a permanent channel by means of jetties or otherwise would be far in excess of probable resulting benefits. The board therefore concurs in the views of the district officer, and reports that in its opinion it is not advisable for the United States to undertake the improvement of the "Channel from Bolinas, California, to the sea."

7. In compliance with law, the board reports that there are no questions of terminal facilities, water power, or other related subjects which could be coordinated with the suggested improvement in such manner as to render the work advisable in the interests of commerce and navigation.

For the board:

FREDERIC V. ABBOT,
Colonel, Corps of Engineers,
Senior Member Present.

PRELIMINARY EXAMINATION OF CHANNEL FROM BOLINAS, CAL., TO THE SEA.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
First District, San Francisco, Cal., May 7, 1915.

From: The District Engineer Officer.

To: The Chief of Engineers, United States Army.

Subject: Preliminary examination of channel from Bolinas, Cal., to the sea.

1. In compliance with letter of March 15, 1915, from your office, calling for reports on preliminary examinations of certain localities within this district, I have to submit the following report.

2. This examination was made by Capt. R. Park, Corps of Engineers, assistant in this office, who reports as follows:

This is a report on preliminary examination of Bolinas Harbor, Cal., authorized by river and harbor act of March 4, 1915, with a view to improving the channel from the town of Bolinas, Cal., to the sea.

The proposed improvement is intended to benefit the town of Bolinas, the adjacent valleys, and local interests.

The town of Bolinas has a population of about 300 souls, distributed amongst about 60 different families; the adjacent valleys support about 300 more people, distributed amongst about 50 families, the majority of whom live on dairy farms situated in the valleys northwest of Bolinas Bay, the remainder living on dairy farms scattered in the small coast valleys and draws a few miles north and south of Bolinas. The local interests are centered chiefly in the store owned by Mr. J. G. and Mr. L. B. Petar, who also own the gasoline schooner *Owl*, value \$15,000, capacity 60 tons, and *Jennie*

Griffin, value \$8,000, capacity 40 tons. Although there are five small hotels or boarding houses, a bakery, and several small saloons, most of their supplies are purchased from the Petar store. The store supplies the town and outlying districts with general merchandise. There is a large Marconi wireless station near Bolinas which buys ordinary subsistence supplies from the Petar store, but brings in to its own order, via the *Owl*, all large supplies, such as crude oil for fuel, and material for maintenance of the station.

The town of Bolinas is situated just inside the entrance to Bolinas Lagoon, protected by the hills south and west of it from the sea. The lagoon is shallow and has been gradually shoaling. A small launch makes trips from points on the south shore, transporting dairy products from the ranches to Bolinas and returning with general supplies for the ranchers. This launch in recent years has been unable to run at low stages of the tide, due to shoaling. A sand spit makes out from the southeast end of the lagoon and runs in a westerly direction to the southwest end, with a break about 200 yards wide close to the north shore, which forms the entrance to the bay. The depth and location of the channel through this entrance, according to reports from Mr. L. B. Petar, master of the *Owl*, are continually varying not only with large disturbances caused by storms but also from day to day with the tides. Sometimes the channel has 12 feet at high water and runs straight to sea across a narrow bar 20 yards wide; at other times there are barely 5 feet at high water, and the channel will cross a much wider bar and then turn south or north paralleling the coast for some distance before reaching deep water. At ordinary mean low water there is about 2 feet of water to be found on the bar. The mean tidal range is about 4 feet. The dock now used by the *Owl* is within a quarter of a mile of the bar and exposed to winter storms. Formerly the dock was located in a sheltered place nearer town, but shoaling occurred and necessitated the removal to the present site. The town of Bolinas is about a quarter of a mile west from the dock. Just north of the bay the ocean beach has been improved by a system of bulkheads perpendicular to the beach, built for the purpose of retaining the sand that in former years washed from the underlying rock during heavy storms. These bulkheads have so far accomplished their purpose and the beach at Bolinas attracts a great many summer people, who come in by boat or stage during the summer time and stay in the summer hotels at Bolinas, or on the ranches outside, where summer boarders are welcomed.

The present means of ingress and egress from Bolinas are as follows: By daily auto stage from San Rafael, 21 miles, one and three-quarters hours; by daily auto stage from Sausalito via Willow Creek, 23 miles, two hours; by wagon road to the Northwestern Pacific Railroad at Point Rey on Tomales Bay, 14 miles, thence 25 miles to Sausalito; by gasoline schooner *Owl* to San Francisco, three hours. The auto stages are steam propelled and very comfortable; they carry no freight but do a small Wells Fargo Express business; the fare for passengers one way to San Rafael is \$2.50, round trip \$3.50; from San Rafael to San Francisco, one way 25 cents, round trip 50 cents. The cost of tickets via Willow Creek is about the same. The fare via schooner *Owl* to San Francisco is one way \$1, return \$2; freight rate, \$2 per ton or 10 cents per hundred, and at the rate of 5 cents per cubic foot, 40 cubic feet to the ton. The trip to Point Rey, thence by rail to Sausalito is not made when passage by boat, or auto stage to San Rafael, or via Willow Creek is possible. The fare, Point Rey to San Francisco, is 75 cents one way, round trip \$1.50.* Freight and express rates are about the same as via *Owl*, although there is the long land haul from Bolinas to consider.

No work has been undertaken by the United States for improving the channel from Bolinas to the sea.

The improvement desired appears to be the construction of two jetties converging toward the sea. It appears that a Mr. Le Conte, once in the employ of this office, has spent considerable time in Bolinas and interested himself in this improvement. He estimates that jetties could be constructed at a cost of \$25,000 which would have the desired effect on stabilizing the location of the bar and in scouring and maintaining a channel of suitable depth. His estimate is probably way low.

Mr. Petar thinks that it will be hard to interest people in contributing to this improvement.

It is always difficult for the schooner *Owl* to enter and leave the harbor. On several occasions the boat has been stranded on the bar on a high tide and forced to lay there until floated by the next high water. At such times the boat ran great risk of being wrecked in case a storm had come on. At all times the line is put to the inconvenience of running on an irregular schedule, depending on the tides.

A United States life-saving station has been authorized for Bolinas Bay and \$12,000 has been authorized for equipping the station.

In case a stable channel affording a depth of at least 6 feet were maintained across the bar, the Petar brothers think that a fast passenger boat could be operated by them

at a profit, making a round trip from Bolinas to San Francisco daily, thus putting Bolinas within commuting distance. They believe that a great many people doing business in San Francisco would therefore be attracted to Bolinas, that these people would build homes and the town would gradually build up as a residential district, and that the building-up process would increase the incoming commerce, especially in the line of building materials. No great increase in outgoing commerce is predicted inasmuch as the farm lands are at present being worked to their full capacity. They believe that the increase in incoming freight would necessitate a daily freight schedule.

The following tables show the approximate tonnage and value of ingoing and outgoing commerce per annum:

	Tons.	Value.
INGOING COMMERCE.		
Grain.....	1,000	\$30,000
Alfalfa.....	1,000	15,000
Lumber (400,000 feet b. m.).....	600	6,000
General merchandise.....	900	56,000
Crude oil.....	100	500
Total.....	3,600	107,500
OUTGOING COMMERCE.		
Butter.....	150	90,000
Eggs.....	50	9,000
Hogs.....	45	12,000
Veal.....	45	14,000
Cream.....	30	7,500
Total.....	320	132,500
Total commerce.....	3,920	240,000

It will be noticed that the big items of commerce are alfalfa and grain, 2,000 tons, valued at \$45,000. The most of this is carried in the *Owl*, although occasionally barge loads are taken in by other lines. The item, 900 tons general merchandise, valued at \$56,000, represents the business done by the Petar store. The value of exports in excess of imports is \$25,000, but this does not represent the actual excess of imports from Bolinas and vicinity over exports, since practically all grain and alfalfa comes via Bolinas, although the product of several dairies, maintaining about 300 cows, is shipped via Point Rey and the Northwestern Pacific Railroad.

The benefits to navigation to be derived from the proposed improvement will be relatively small, since there is only one small schooner in operation out of Bolinas. The boat now hauling the commerce is apparently capable of taking care of any probable increase in the near future. The inconvenience due to waiting for the tide does not, apparently, prevent the regular shipments of produce. In severe storms passage out of the bay is impracticable, and occasionally losses have occurred to shippers of cream, hogs, and calves, due to delay of days at a time in getting away after their shipments were aboard the *Owl*. The bar is admittedly dangerous at times, and the boat always runs more or less risk of being wrecked. The agent of the line furnishes the information that the boat lost but one trip during 1914 due to rough weather. The year before 15 trips were lost.

The influx of business men from San Francisco, who will build homes in Bolinas, going back and forth each day, is not likely. Apparently the produce which Bolinas is capable of raising or shipping is not much greater than that now shipped, which is efficiently handled by one boat. The commerce handled is entirely local. The improvement would not affect freight rates probably, inasmuch as there is no competing line, nor the likelihood of such competition, due to the fact that the general store and boat are both owned by the same men.

If the life-saving station is established, a permanent channel, guarded by jetties, would facilitate the ingress and egress of the life-savers at low water, but it is believed that life-savers, with proper equipment, could launch their boat off the sand spit when during severe storms they could not force their way through the breakers on the bar.

Bolinas Lagoon is a very shallow body of water, and could hardly be used as a haven for minor naval craft for that reason, there being only a few small areas with depths over 6 feet. Extensive dredging operations within the lagoon would be required before anything larger than a submarine would venture in.

